

## **REMARKS**

**[0003]** Applicant respectfully requests entry of the following remarks and reconsideration of the subject application. The remarks should be entered under 37 C.F.R. §1.116 as they place the application in better form for resolution on the merits or for appeal.

**[0004]** Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-4, 7, 8, 10, 12, and 14-22 are presently pending. Claims amended herein are none. Claims withdrawn or cancelled herein are 5, 6, 9, 11, 13, and 23-24. New claims added herein are none.

### **Allowable Subject Matter**

**[0005]** In the Office Action of March 27, 2007 the Examiner indicated that then pending claims 6, 11, 13, and 24 contained subject matter allowable over the cited art of record provided that outstanding §101 rejections were overcome.

**[0006]** After an Examiner interview by phone on June 20, 2007, Applicant filed a response on June 27, 2007 amending each independent claim to incorporate the subject matter indicated as allowable and the subject matter of any intervening claims. The intervening claims and claims with allowable subject matter were canceled therein. Also in the response of June 27, 2007, Applicant amended claims in an attempt to clarify compliance with the requirements of 35 U.S.C. 101 in accordance with our conversation with the Examiner during the above mentioned Examiner interview.

**[0007]** Applicant maintains that all pending claims of the subject application are allowable over the cited art of record for at least the reasons presented by the Examiner on March 27, 2007. Accordingly, Applicant respectfully requests that the outstanding rejections be withdrawn, and the case passed to issuance.

**Formal Request for an Interview**

**[0008]** If the Examiner's reply to this communication is anything other than allowance of all pending claims, then I formally request an interview with the Examiner. I encourage the Examiner to call me—the undersigned representative for the Applicant—so that we can talk about this matter so as to resolve any outstanding issues quickly and efficiently over the phone.

**[0009]** Please contact me or my assistant to schedule a date and time for a telephone interview that is most convenient for both of us. While email works great for us, I welcome your call to either of us as well. Our contact information may be found on the last page of this response.

### **Request for Withdrawal of Finality**

**[0010]** In accordance with MPEP 706.07(d), Applicant submits that the final rejection is premature. Applicant formally asks that the Examiner reconsider finality on of the rejections in this Action. Applicant submits that the Examiner should withdraw finality because the Office Action contains new grounds for rejections which were not necessitated by an amendment or IDS with fee.

### **Applicant's Right to Adequately Respond**

**[0011]** The Examiner provides little to no explanation as to how the holding of the cited case (*Gottschalk v. Benson*, 409 U.S. 63 (1972), hereinafter "*Gottschalk*") corresponds to the actual claim language of the instant application.

**[0012]** Since the Examiner presented the current rejections by phone without an explanation of the reasoning for the rejections, Applicant could do little more than gainsay in preparing its response to them in addressing the non final rejections. Applicant was forced to make assumptions and guesses as to the Examiner's specific reasoning for rejections based on case law that had not yet been presented. Therefore, Applicant submits that it has been denied its right to adequately and effectively respond to the Office's rejections.

**[0013]** In *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002), the Federal Circuit explained the following on page 1433:

The Administrative Procedure Act, which governs the proceedings of administrative agencies [such as the Patent and Trademark Office] and related judicial review, establishes a scheme of “reasoned decisionmaking.” Not only must an agency’s decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational. Allentown Mack Sales and Service, Inc. v. National Labor Relations Bd., 522 U.S. 359, 374 (1998) (citation omitted).

This standard requires that the agency not only have reached a sound decision, but have *articulated the reasons for that decision*. The reviewing court is thus enabled to perform meaningful review within the strictures of the APA, for the court will have a basis on which to determine “whether the decision was based on the relevant factors and whether there has been a clear error of judgment.” *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 (1971). [emphasis added]

**[0014]** Applicant submits that the Office has provided conclusory statements and has not articulated the reasons for its decision-making. Accordingly, Applicant requests that the Office withdraw finality and re-examine these claims anew in light of the facts of the instant claims, the holding in *Gottschalk*, and the more recent case law addressing §101.

### **Claim Amendments and Additions**

**[0015]** Applicant amends no claims herein.

**[0016]** Applicant adds no new claims herein.

## **Substantive Matters**

### **Claim Rejections under § 101**

**[0017]** Claims 1-4, 7, 8, 10, 12, and 14-22 stand rejected under 35 U.S.C. 101. The Office states that these claims are directed to non-statutory subject matter. Applicant respectfully traverses the rejections of these claims. In light of discussion presented herein, Applicant respectfully maintains that these claims comply with the patentability requirements of §101 and that the §101 rejections should be withdrawn.

**[0018]** Applicant further maintains that these claims are allowable over the art of record at least due to the reasons presented in the Office Action of March 27, 2007. Accordingly, Applicant asks the Examiner to withdraw these rejections.

**[0019]** The Examiner indicates (Action, pp. 2-3) the following with regard to the claims:

This application sought to patent a method of performing Montgomery Multiplication. A procedure for solving a given type of mathematical problem is known as an algorithm. The procedures set forth in the present claims are of that kind; that is to say, they are a generalized formulation for problems to solve mathematical problems of calculating multiplication. The mathematical procedures can be carried out in existing computers long in use, no new machinery being necessary. And, as noted, they can also be performed without a computer. The mathematical formula involved here has no substantial practical application except in connection with a digital computer, which means that patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.

*Gottschalk v. Benson.*

Regarding applicant's remarks, applicant argues that the 101 rejection is improper because present application discloses computer system, processing system, and computer readable medium. However, as stated in the above 101 rejection, the mathematical procedures can be carried out in existing computers long in use, no new machinery being necessary. And, as noted, they can also be performed without a computer. The mathematical formula involved here has no substantial practical application except in connection with a digital computer. Therefore, applicant's argument is traversed.

*Gottschalk v. Benson*

**[0020]** The claims at issue in *Gottschalk* were ultimately rejected not because they included mathematical algorithms, but because "[t]he claims were not limited to any particular art or technology, to any particular apparatus or machinery, or to any particular end use." *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972). The independent claims presented above contrast with the claims at issue in *Gottschalk* for at least the reasons presented below.

**[0021]** The claims above are directed to specifically: "a computer system," claim 1; "a processing system," claim 7; "a computer readable medium," claim 12; "a method for computing Montgomery multiplication, whereby Montgomery multiplication is performed within a cryptographic function," claim 15; and "a method whereby Montgomery multiplication is performed within a cryptographic function," claim 20. Whereas the claims ultimately rejected in *Gottschalk* were to methods that were not limited to a particular technology, apparatus, or end use, Applicant submits that claims 1, 7, and 12 are directed to physical machines producing useful, concrete, and tangible results—not disembodied mathematical concepts. *See infra In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994) (en banc).

[0022] Applicant maintains that claims 15 and 20, directed to methods, are limited to a particular technology, cryptography, and therefore the instant claims would not “wholly pre-empt the mathematical formula.”

[0023] Because of at least these recitations, the instant claims are substantively different than the claims in *Gottschalk*. The instant claims would not “in practical effect . . . be a patent on the algorithm itself.” *See Gottschalk* 409 U.S. at 71.

**Diamond v. Diehr**

[0024] In *Diehr*, the Supreme Court cautioned against applications that “seek[] patent protection for that formula in the abstract.” *Diehr*, 450 U.S. 175, 191 (1981). Also in *Diehr*, the Court found that the application in that case did “not seek to pre-empt the use of [an] equation,” but rather sought only to “foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process”). *Id.* at 187. In *Diehr* the Court stated that *Gottschalk v. Benson* and *Parker v. Flook* “stand for no more than [the] long-established principles” that abstract ideas and natural phenomena are not patentable. *Id.* at 185.

[0025] Specifically the *Diehr* Court found that the claims while employing “a well-known mathematical equation, [did] not seek to pre-empt the use of that equation.” *Id.* at 187. Likewise, the claims at issue in the instant application, employ a mathematical equation, but Applicant does not seek to pre-empt the use of that equation. Rather, Applicant seeks to *foreclose from others the use of Montgomery multiplication in conjunction with all of the other steps in the processes of claims 15 and 20.*

**[0026]** Additionally, as the office has noted, mathematical procedures can be carried out on existing computers and without a computer, neither of which are covered by the specific pending claims. Thus, it must follow that the claims do not preempt the formula in the abstract.

State Street Bank

**[0027]** Applicant further maintains that the instant claims represent transforming data through a series of mathematical calculations into a final result. According to *State Street Bank*, 149 F.3d 1368, 1373 (Fed. Cir. 1998), such a final result constitutes a practical application of Montgomery multiplication because it produces a useful, concrete, and tangible result. For at least this additional reason, these claims meet the requirement of a practical application of a judicial exception for mathematical algorithms.

In re Comiskey

**[0028]** Applicant further maintains that the instant claims are patentable because they combine the use of particular physical machines which utilize SIMD instructions within Montgomery Multiplication in the technology of cryptography. According to *In re Comiskey*, Slip. Op. 2006-1286, (Fed. Cir. 2007), such a combination represents patentable subject matter. (“While the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter, . . . these claims in combining the use of machines with a mental process, claim patentable subject matter.” *Id.* at 23-24 (citation omitted)). However, Claims 1 and 32 in *Comiskey* were determined not to be patentable under §101 because the “claims [did] not require a



machine, and . . . [did] not describe a process of manufacture . . . Comiskey's independent claims 1 and 32 [claimed] the mental process of resolving a legal dispute between two parties by the decision of a human arbitrator." Id. at 21-22. "Comiskey's independent claims 1 and 32 [sought] to patent the use of human intelligence in and of itself." Id. at 22). Unlike Comiskey's claims 1 and 32, the instant claims require a machine or are directed to a machine or article of manufacture; *they do not seek to patent the use of human intelligence in and of itself*. For at least this additional reason, these claims meet the requirements for patentability under §101.

*In re Alappat*

**[0029]** Applicant respectfully submits that pending claims 1-10 recite machines constituting statutory subject matter under 35 U.S.C. §101. Applicant sets forth the legal standard for a rejection under §101, including *In re Alappat*, 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994) addressing a similar rejection under §101 as that of the instant rejection of claims 1-10. Through analysis of *Alappat*, Applicant will show that the Office's rejection of the instant claims stands in stark disagreement with prevailing law.

**[0030]** The Federal Circuit in *Alappat* held that the following computer-related apparatus claim constituted statutory subject matter under 35 U.S.C. §101:

A rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising:

- (a) means for determining the vertical distance between the endpoints of each of the vectors in the data list;
- (b) means for determining the elevation of a row of pixels that is spanned by the vector;

(c) means for normalizing the vertical distance and elevation; and  
(d) means for outputting illumination intensity data as a  
predetermined function of the normalized vertical distance and elevation.

**[0031]** In *Alappat*, the Office and BPAI decision addressing the issue on appeal stated that this claim was not statutory subject matter under §101. However, the BPAI decision was overturned by the Federal Circuit.

**[0032]** The reasons given by the BPAI appeared similar to those given in the instant rejection by the Office. The majority decision of the Board had stated that it is proper to treat the above-cited rasterizer claim as if drawn to a method. *See Ex Parte Alappat*, 23 USPQ2d 1340, 1345 (BPAI, 1992). Specifically, the BPAI held that the claims amounted to nothing more than a process claim where each of the steps combine to form a “mathematical algorithm for computing pixel information.” *Alappat* at 1539, quoting *Ex Parte Alappat* at 1345. Further, that “when the claim is viewed without the steps of this mathematical algorithm, no other elements or steps are found.” *Ex Parte Alappat* at 1346. The BPAI’s reasoning is similar to that of the rejection of the instant claims, where the Office argued that the claimed invention is a “procedure for solving a given type or mathematical problem . . . known as an algorithm” that is “a generalized formulation for problems to solve mathematical problems of calculating multiplication.” *Office Action*, p. 2.

**[0033]** The Federal Circuit overturned the decision of the BPAI. The Federal Circuit stated that the BPAI erred in concluding that this rasterizer claim is nothing more than a process claim. *Alappat* at 1540. In deciding that the BPAI erred, the Federal Circuit relied on the language of the claim on its face as well as the claim when read in light of the disclosure of the specification. *Id.* The Federal Circuit also analyzed whether

the claimed subject matter as a whole is a disembodied mathematical concept, which in essence represents nothing more than a “law of nature,” “natural phenomenon,” or “abstract idea.” *Id* at 1544.

**[0034]** Applicant sets forth the analysis performed by the Federal Circuit and then applies this analysis to the instant rejection of Claims 1-10.

**[0035]** The Federal Circuit relied on 35 U.S.C. §101, entitled “Inventions patentable,” which states that: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title,” (*emphasis added*). Such statute explicitly provides, in unequivocal language, for machines as a statutory category of subject matter for which Applicant is entitled to apply for a patent.

**[0036]** Following this standard, the Federal Circuit’s analysis focused on the claim reciting “a rasterizer” and other elements. The Circuit analyzed the language of the claim, concluding that the rasterizer claim recites a machine on its face.

**[0037]** Applicant establishes below that the subject matter recited in independent Claims 1 and 7 recites a machine on its face. Applicant provides independent Claims 1 and 7 below for the convenience of the Office.

Claim 1 recites a computer system, comprising:

- a memory wherein results of processing are stored; and
- a processor that supports SIMD instructions, the processor being configured to perform Montgomery multiplication using SIMD instructions, wherein the Montgomery multiplication has a loop of instructions, and each iteration of the loop involves, excepting copy operations, using no more than eight SIMD

instructions and wherein the SIMD instructions comprise two load instructions, one multiply instruction, two add instructions, one copy instruction, one bitwise AND instruction, one store instruction, and one shift instruction.

Claim 7 recites a processing system, comprising:

- a processor having a set of registers, the processor being configured to support SIMD instructions; and
- a set of SIMD instructions, executable by the processor, to perform Montgomery multiplication:
  - $\text{montmul}(A, B) = \text{rem}((AB - qN)/R, N)$ , where  $q = \text{rem}(AB N', R)$ .
- where  $A$  and  $B$  are integers,  $q$  is a quotient,  $N$  is a modulus,  $R$  is an integer that is coprime to modulus  $N$ , and  $N'$  is an integer such that  $NN' \equiv 1 \pmod{R}$ , wherein the integer  $B$  and the modulus  $N$  are implemented as arrays, and at least one SIMD instruction is used to update a first array  $T_1$  with multiples of  $B$  for computing  $AB$  and to update a second array  $T_2$  with multiples of  $N$  for computing  $qN$ , wherein a first register holds elements of the  $B$  and  $N$  arrays;
- a second register holds an element of the first array  $T_1$  and an element of the second array  $T_2$ ; and
- a third register is used to hold results of the first array  $T_1$  being updated with a multiple of  $B$  and the second array  $T_2$  being updated with multiples of  $N$ .

**[0038]** Claims 1 and 7 recite either a “computer system” or a “processing system.”

These terms on their face recite a machine—not merely a process or a series of steps performed on a computer as apparently argued by the Office.

**[0039]** The Federal Circuit also studied the disclosure of the specification in deciding whether or not the rasterizer claim constitutes a statutory class of subject matter. The Circuit determined that the rasterizer claim recited a machine based on the fact that the disclosure describes computer elements that were recited in the claim. The claim recited means-plus-function elements, though this was not dispositive in the Federal Circuit’s analysis. Rather, the Federal Circuit relied on the disclosure to show computer elements that may be within the scope of the rasterizer claim. Similarly, exemplary elements are described in the instant specification that, when analyzed as examples of

elements recited in the instant claims, show that the instant claims recite a machine and not a process.

**[0040]** Independent Claims 1 and 7 when read in light of the specification, clearly and unequivocally recite machines. It is black letter law that Applicant's claims are to be interpreted in light of the disclosure of the specification. *North Am. Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1579, 28 USPQ2d 1333, 1339 (Fed. Cir. 1993); and see *Miles Lab., Inc. v. Shandon, Inc.*, 997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993).

**[0041]** The specification describes examples of subject matter recited in the claims that are not solely or necessarily a “process” or a “procedure for solving a given type or mathematical problem . . . known as an algorithm” that is “a generalized formulation for problems to solve mathematical problems of calculating multiplication” as argued by the Office. Instead, this subject matter recites one or more machines.

**[0042]** Claim 1 recites “a computer system” comprising “a memory wherein results of processing are stored; and a processor”, each of which are described and diagrammed as a machine—not only as a process or a series of steps performed on a computer. Applicant refers the Office to examples of a computer architecture, memory, and processor in the specification: computer architecture 100 of Figure 1; memory 104 of Figure 1, and microprocessor 102 of Figure 1.

**[0043]** Claim 7 recites “a processing system” comprising “a processor having a set of registers, the processor being configured to support SIMD instructions.” Applicant refers the Office to the above-cited example of a processor, namely: microprocessor 102 of Figure 1 which further includes ALU(s) 106 of Figure 1 and registers 108 of Figure 1.

These exemplary elements are shown and described as machines—not necessarily just a “a generalized formulation for problems to solve mathematical problems of calculating multiplication” as argued by the Office.

**[0044]** Not only are these elements described as machines by their usage and diagrammed as machines in the figures, each may also cause results of processing to be stored in a computer’s memory. This characteristic, in and of itself, precludes these elements from being solely “a generalized formulation for problems to solve mathematical problems of calculating multiplication” as apparently relied upon by the Office in rejecting Claims 1-10 under §101.

**[0045]** Furthermore, the specification provides the following examples of elements recited in Claims 1 and 7 and described as machines that *perform* an action rather than simply *being* an action or step:

Fig. 1 shows a computer architecture 100 that can be configured to implement use of two-way SIMD instructions for Montgomery multiplication. The computer architecture 100 includes a microprocessor 102 and memory 104. The microprocessor 102 has one or more ALUs (Arithmetic Logic Units) 106(1), ..., 106(N) to manage mathematical operations, such as adding and multiplying, and logical operators like OR, AND, XOR, and so forth, as well as right and left shifts. The microprocessor 102 further includes one or more registers 108(1), ..., 108(M) to hold intermediate values and final results produced by the ALUs 106.

*Specification, p. 4, ¶ [0013].*

**[0046]** Thus, a computer architecture is described in Figure 1 and on at least page 4 of the Specification in language permitting the processor to produce cryptographic results via SIMD instructions for Montgomery multiplication to be: 1) stored in memory; and 2) utilized in cryptographic functions. These characteristics of this exemplary

computer system describe a machine—not “a generalized formulation for problems to solve mathematical problems of calculating multiplication” as argued by the Office. A “calculating” cannot be stored in memory. A “calculating” cannot include machine elements. Thus, the characterization put forth by the Office apparently in rejecting Claims 1-10 is inconsistent with the detailed description.

**[0047]** Like the Office in the instant rejection, the BPAI in *Alappat* also argued that the claimed subject matter falls within an exception to §101, namely that it is a “mathematical algorithm.” See *Alappat* at 1542. In analyzing the BPAI’s position, the Federal Circuit explained the Supreme Court’s holdings on mathematical subject matter. The Circuit stated that the Supreme Court “never intended to create an overly broad, fourth category of subject matter excluded from §101.” *Alappat* at 1543. Instead, the Federal Circuit explained that this exception to §101 applies to abstract ideas that, in and of themselves, are not entitled to patent protection. The focus in any statutory subject matter analysis must be on the claim as a whole; it is irrelevant that a claim may contain, as part of the whole, subject matter which would not be patentable by itself. *Alappat* at 1543, referring to *Diamond v. Diehr*, 450 U.S. 175, 101 S.Ct. 1048 (1981) *supra*.

**[0048]** The Federal Circuit in *Alappat* concluded that the proper inquiry in dealing with the mathematical subject matter exception of §101 is to determine whether the claimed subject matter as a whole is a disembodied mathematical concept. In essence, it must represent *nothing more* than a “law of nature,” “natural phenomenon,” or “abstract idea.” See *Alappat* at 1544. If the claim represents more than these, it does not fall within the mathematical subject matter exception to §101.

**[0049]** Applicant submits that the Office has failed to meet the Federal Circuit's standard in *Alappat* in rejecting the instant claims. The Office has failed to show that each of these claims represents nothing more than a law of nature, natural phenomenon, or abstract idea. The Office argues that these claims merely manipulate data or solve a purely mathematical problem without any limitation to a practical application. This is simply not supported by the claims or examples of elements in the claims disclosed in the Specification.

**[0050]** For each of the instant claims, the Office has failed to show that the recited elements fall within the mathematical subject matter exception of §101. For this and the other reasons set forth above, Applicant respectfully submits that the instant comply with 35 U.S.C. §101 and requests that the §101 rejections be withdrawn.

*AT&T Corp. v. Excel Communications, Inc.*

**[0051]** Applicant respectfully submits that pending claims 15-22 recite methods constituting statutory subject matter under 35 U.S.C. §101. Applicant sets forth the legal standard for a rejection under §101, including *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (1999) addressing a similar rejection under §101 as that of the instant rejection of Claims 15-23. Through analysis of *AT&T*, Applicant will show that the Office's rejection of the instant claims stands in stark disagreement with prevailing law.

**[0052]** It is established law that an abstract idea, by itself, is considered to be unpatentable subject matter under § 101. *See, e.g., Id.* at 1355 (pointing out that laws of nature, natural phenomena, and abstract ideas have generally been identified by the Supreme Court as unpatentable subject matter). However, if such an idea is taken out of



the abstract and employed in some type of process that achieves a "new and useful end", the *process is* patentable subject matter, even if the idea by itself would not be. *Id.* at 1357. Thus, the relevant inquiry under § 101 becomes -- Is the idea being applied to achieve a useful end? *Id.* If so, then the § 101 threshold is satisfied. *Id.*

**[0053]** In *AT&T*, the invention was designed to operate in a telecommunications system with multiple long-distance service providers. The system contained local exchange carriers ("LECs") and long-distance service (interexchange) carriers ("IXCs"). The LECs provided local telephone service and access to IXCs. Each customer had an LEC for local service and selected an IXC, such as AT & T or Excel, to be its primary long-distance service (interexchange) carrier or PIC. The system involved a three-step process when a caller made a direct-dialed (1+) long-distance telephone call: (1) after the call was transmitted over the LEC's network to a switch, and the LEC identified the caller's PIC, the LEC automatically routed the call to the facilities used by the caller's PIC; (2) the PIC's facilities carried the call to the LEC serving the call recipient; and (3) the call recipient's LEC delivered the call over its local network to the recipient's telephone.

**[0054]** When a caller made a direct-dialed long-distance telephone call, a switch (which could be a switch in the interexchange network) monitored and recorded data related to the call, and generated an "automatic message account" ("AMA") message record. This contemporaneous message record contained fields of information such as the originating and terminating telephone numbers, and the length of time of the call. These message records were then transmitted from the switch to a message accumulation system for processing and billing.

**[0055]** Because the message records were stored in electronic format, they could be transmitted from one computer system to another and reformatted to ease processing of the information. Thus the carrier's AMA message subsequently was translated into the industry-standard "exchange message interface," forwarded to a rating system, and ultimately forwarded to a billing system in which the data resided until processed to generate, typically, "hard copy" bills which were mailed to subscribers.

**[0056]** The invention at issue in the *AT&T* case called for the addition of a data field into a standard message record to indicate whether a call involved a particular PIC (the "PIC indicator"). This PIC indicator could exist in several forms, such as a code which identified the call recipient's PIC, a flag which showed that the recipient's PIC was or was not a particular IXC, or a flag that identified the recipient's and the caller's PICs as the same IXC. The PIC indicator therefore enabled IXCs to provide differential billing for calls on the basis of the identified PIC.

**[0057]** One of the claims at issue – claim 1-- read as follows:

A method for use in a telecommunications system in which interexchange calls initiated by each subscriber are automatically routed over the facilities of a particular one of a plurality of interexchange carriers associated with that subscriber, said method comprising the steps of:

generating a message record for an interexchange call between an originating subscriber and a terminating subscriber, and

including, in said message record, a primary interexchange carrier (PIC) indicator having a value which is a function of whether or not the interexchange carrier associated with said terminating subscriber is a predetermined one of said interexchange carriers.

**[0058]** In looking at the subject matter of this claim and finding the claim to pass muster under 35 U.S.C. § 101, the Court looked to the *specification* and commented as follows:

In this case, Excel argues, correctly, that the PIC indicator value is derived using a simple mathematical principle (p and q). But that is not determinative because AT&T does not claim the Boolean principle as such or attempt to forestall its use in any other application. It is clear from the written description of the '184 patent that AT&T is only claiming a process that uses the Boolean principle in order to determine the value of the PIC indicator. The PIC indicator represents information about the call recipient's PIC, a useful, non-abstract result that facilitates differential billing of long-distance calls made by an IXC's subscriber. Because the claimed process applies the Boolean principle to produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle, on its face the claimed process comfortably falls within the scope of § 101.

**[0059]** The Court looked at the specification and found that the environment and use of the PIC indicator – that of providing differential billing – provided a useful, concrete and tangible result. That result, however, was not specifically recited in the claim. Rather, it was described in the specification.

**[0060]** Likewise, in the present case, the specification provides a description of the utility and tangibility of the recited subject matter, and Applicant has previously amended the claims to include such patentable subject matter.

**[0061]** Accordingly, in the claims as throughout the Specification, it is evident that the claimed subject matter has a specifically described useful, concrete and tangible result and application.

**[0062]** In view of the above discussion, the Office has failed to show that claims 15-22 present unpatentable subject matter under § 101. Applicant respectfully submits that claims 15-22 comply with the patentability requirements of § 101 and that the § 101 rejections should be withdrawn.

**[0063]** If the Examiner maintains the rejection of these claims, then the Applicant requests additional guidance as to what is necessary to overcome the rejection.

#### **Independent Claims 1, 7, 12, 15, and 20**

**[0064]** Each independent claim is allowable for the reasons discussed above. Applicant requests that the Examiner withdraw the rejection of each independent claim and pass this case to issuance.

#### **Dependent Claims**


**[0065]** In addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is allowable. Applicant requests that the Examiner withdraw the rejection of each dependent claim where its base claim is allowable.

## Conclusion

[0066] All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the **Examiner is urged to contact me before issuing a subsequent Action.** Please call/email me or my assistant at your convenience.

Respectfully Submitted,

Dated: 11/29/2007

By:   
Beatrice L. Koempel-Thomas  
Reg. No. 58213  
(509) 324-9256 x259  
[bea@leehayes.com](mailto:bea@leehayes.com)  
[www.leehayes.com](http://www.leehayes.com)

My Assistant: Carly Bokarica  
(509) 324-9256 x264  
[carly@leehayes.com](mailto:carly@leehayes.com)